



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/743,322	12/23/2003	Prem Yadav	2601-108	5564

6449 7590 07/06/2005

ROTHWELL, FIGG, ERNST & MANBECK, P.C.  
1425 K STREET, N.W.  
SUITE 800  
WASHINGTON, DC 20005

EXAMINER

SANTOS, PATRICK J D

ART UNIT	PAPER NUMBER
----------	--------------

2161

DATE MAILED: 07/06/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/743,322

Applicant(s)

YADAV ET AL.

Examiner

Patrick J Santos

Art Unit

2161

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 23 December 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-30 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 10-18-04/3-23-05.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

**DETAILED ACTION**

***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,546,386 issued to Black et al. filed, Oct. 31, 2000, based on a continuation-in-part filed Aug. 1, 2000 (hereafter Black '386) in view of U.S. Patent No. 5,933,822 issued to Braden-Harder et al. (hereafter Braden-Harder '822) as disclosed in Applicant's IDS dated Oct. 18, 2004.

Claims 1, 11, and 21:

Regarding Claim 21, Examiner notes "means for" claim construction and interprets Claim 21 under 35 USC 112, paragraph 6, as per MPEP § 2181. Regarding Claims 1, 21, and 31, Black '386 discloses an Internet based document query system. Specifically, Black '386 discloses:

- (Claim 1) an information retrieval method (Black '386: col. 4, ln. 58);
- (Claim 11) an information retrieval system (Black '386: col. 5, ln. 41);
- (Claim 21) A computer program embodied on a computer readable medium, the computer program comprising computer code segments (Black '386: col. 5, lns. 41 and 43):

comprising:

- prompting a user to input an initial query and receiving the initial query input by the user, wherein the initial query includes a keyword (Black '386: col. 4, lns. 58-60);
  - o determining a synonym of the keyword (Black '386: col. 2, lns. 52-56 – note that if a document contains a synonym of a keyword in the predetermined keyword list, that keyword is extracted; further note the extracted is a synonym of the word in the document);
  - o determining a term related to the keyword (Black '386: col. 2, ln. 65 to col. 3, ln. 8 – note that multiple word phrases, i.e. terms, are supported by Black '386; further note the example, “Governor Bush”, which is a term, rather than two separate keywords, “governor” and “bush”);
  - o creating a first query, wherein the first query
    - (a) includes the keyword, the synonym, and/or the related term (Black '386: col. 3, lns. 37-41) and
    - (b) conforms to the query protocol of a first search engine (Black '386: col. 3, lns. 55-58; col. 4, lns. 36-40);
  - o creating a second query, wherein the second query (Black '386: col. 4, lns. 35-37 – note that Black '386 supports the sending of multiple queries)
    - (a) includes the keyword, the synonym, and/or the related term (Black '386: col. 4, lns. 36-40) and
    - (b) conforms to the query protocol of a second search engine (Black '386: col. 3, lns. 55-58; col. 4, lns. 36-40);
- submitting to the first search engine the first query (Black '386: col. 4, lns. 35-37);

Art Unit: 2161

- submitting to the second search engine the second query (Black '386: col. 4, lns. 35-37);
- receiving from the first search engine a first plurality of document identifiers (Black '386: col. 4, lns. 40-43);
- receiving from the second search engine a second plurality of document identifiers (Black '386: col. 4, lns. 40-43); and
- for one or more document identifier included in the first plurality of document identifiers and for one or more document identifier included in the second plurality of document identifiers, determining a score for the document identified by the document identifier (Black '386: col. 1, lns. 35-37);
- wherein the step of determining the score includes the step of identifying a tagged keywords within the document (Black '386: col. 5, lns. 36-40), and

However, Black '386 does not explicitly disclose:

- wherein the step of determining the score includes the step of identifying a figure legend within the document, and
- wherein the document's score is, at the least, a function of whether the keyword, synonym and/or related word is found in the identified figure legend.

Braden-Harder '822 discloses a information retrieval system with a document ranking system. Specifically, Braden-Harder '822 discloses:

- wherein the step of determining the score includes the step of identifying a figure legend within the document (Braden-Harder '822: col. 26, lns. 8-13), and

- wherein the document's score is, at the least, a function of whether the keyword, synonym and/or related word is found in the identified figure legend (Braden-Harder '822: col. col. 26, lns. 8-27).

It would have been obvious to a person having ordinary skill in the art to substitute ranking documents based on tagged words in a document Black '386 with ranking documents based on a figure legend of Braden-Harder '822. The motivation to combine is suggested by Braden-Harder '822 which discloses that use of Braden-Harder '822 improves search retrieval accuracy in keyword based search systems, such as that of Black '386 (Braden-Harder '822: col. 4, ln. 53 to col. 5, ln. 6).

Claims 2-4, 6-8; 12-14, 16-18, 22-24, and 26-28:

Regarding Claims 2-4, 6-8; 12-14, 16-18, 22-24, and 26-28, Black '386 and Braden-Harder '822 in combination disclose all the limitations of Claims 1, 11, and 21 (supra).

Additionally, Braden-Harder '822 in combination disclose:

- (Claims 2, 12, and 22) further comprising the step of enabling the user to select the synonym, wherein, if the user selects the synonym, then the first query includes both the keyword and synonym (Black '386: col. 4, lns. 30-34; col. 2, lns. 52-56 – note that synonyms combined with a central search concept (the “hook” of Black '386) are presented to the user who is enabled to choose which combinations to query with).
- (Claims 3, 13, and 23) further comprising the step of enabling the user to select the related term, wherein, if the user selects the related term, then the first query includes both the keyword and related term (Black '386: col. 4, lns. 30-34 – note that in selecting a query, the user selects a related term).

- (Claims 4, 14, and 24) wherein the first query include the keyword but not the synonym or related term (Black '386: col. 4, lns. 30-34, Fig. 3 – note that in Fig. 3, the hook i.e. just the keyword matching the central concept, may be chosen without choosing synonyms or related terms).
- (Claims 6, 16, and 26) further comprising the step of enabling the user to assign a weight value to the synonym, the related term and/or the keyword (Braden-Harder '822: col. 5, lns. 40-45).
- (Claims 7, 17, and 27) wherein the step of determining the synonym includes the step of searching for the keyword within a knowledge pack (Black '386: col. 4, lns. 28-30; col. 2, lns. 52-56 – note the predetermined keyword list reads on a knowledge pack).
- (Claims 8, 18, and 28) wherein the step of determining a score for a document includes the step of determining the number of times the keyword appears in an abstract of the document and determining the number of times the keyword appears in a main body of the document (Black '386: Fig. 3 – note the keyword frequency count; further note that abstracts of documents stored separately will yield separate keyword frequency counts for abstracts and the documents themselves).

Claims 5, 15, and 25:

Regarding Claims 5, 15, and 25, Braden-Harder '822 in combination disclose all the limitations of Claims 4, 14, and 24 (supra). Additionally, Braden-Harder '822 in combination disclose: further comprising the steps of:

- creating a third query, wherein the third query

(a) includes the synonym, but not the related term or the keyword (Black '386: col. 4, lns. 30-34 – note that a user may select a query that contains a permutation of hooks, keywords, synonyms, and terms such that a synonym is included by not a related term) and

(b) conforms to the query protocol of a first search engine (Black '386: col. 3, lns. 55-58; col. 4, lns. 36-40);

- submitting to the first search engine the third query (Black '386: col. 4, lns. 35-37); and
- receiving from the first search engine a third plurality of document identifiers (Black '386: col. 4, lns. 40-43).

Claims 9-10, 19-20, and 29-30:

Regarding Claims 9-10, 19-20, and 29-30, Braden-Harder '822 in combination disclose all the limitations of Claim 8, 18, and 28 (supra). Additionally, Braden-Harder '822 in combination disclose:

- (Claims 9, 19, and 29) wherein the step of determining the number of times the keyword appears in the abstract of the document includes the step of accessing a document database that stores statistical information about the document, including the number of times a word in a knowledge pack appears in the document's abstract and main body (Black '386: col. 4, lns. 58-67 – note that a pre-selected keyword list reads on a knowledge pack; further note that abstracts of documents stored separately will yield separate keyword frequency counts for abstracts and the documents themselves).
- (Claims 10, 20, and 30) wherein the step of determining the number of times the keyword appears in the abstract of the document includes the steps of:

- retrieving the document after submitting the queries to the search engines (Black '386: col. 4, lns. 40-43); and
- parsing the document after retrieving the document (Black '386: Fig. 3 – note that in order to obtain word counts, the document must be parsed).

### *Conclusion*

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Salton, G. "Automatic Processing of Foreign Language Documents" – note that synonym search as disclosed in the pending application has the same topology as a search engine using foreign language synonyms to enable foreign language search; further note that Salton enables document statistical analysis of retrieved documents.
- U.S. Patent No. 6,681,222 to Kabra et al. – note interesting tricks using an inverted (reverse) index.

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Patrick J Santos whose telephone number is 571-272-4028. The examiner can normally be reached on M-F 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Safet Metjahic can be reached on 571-272-4023. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Patrick J.D. Santos  
May 28, 2005

  
**FRANTZ COBY**  
**PRIMARY EXAMINER**